

# Creating value and contributing to a cleaner earth

Diggers & Dealers Mining Forum

06 AUGUST 2024



ASX:NTU

# Acknowledgement of Country

We acknowledge the Traditional Owners of the lands upon which we operate. We recognise their unique cultural heritage, beliefs and connection to land, waters and communities. We pay our respects to Elders past and present.



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#### **Compliance Statement**

#### **Competent Person Statement**

The information in this document that relates to:

- Mineral Resources and Ore Reserves, has been extracted from the Company's ASX announcement titled "Updated Wolverine Mineral Resource estimate at Browns Range" dated 10 October 2022; and
- Exploration Results, has been extracted from the Company's ASX announcements titled "More exceptional heavy rare earth assays at Wolverine" (30 May 2024) and "Exceptionally high-grade Rare-Earth assays returned over wide mineralised intervals at Wolverine" (22 April 2024)

which are available to view at www.asx.com.au under the code "NTU" (the original releases). See Slide 29 of this Presentation for further information.

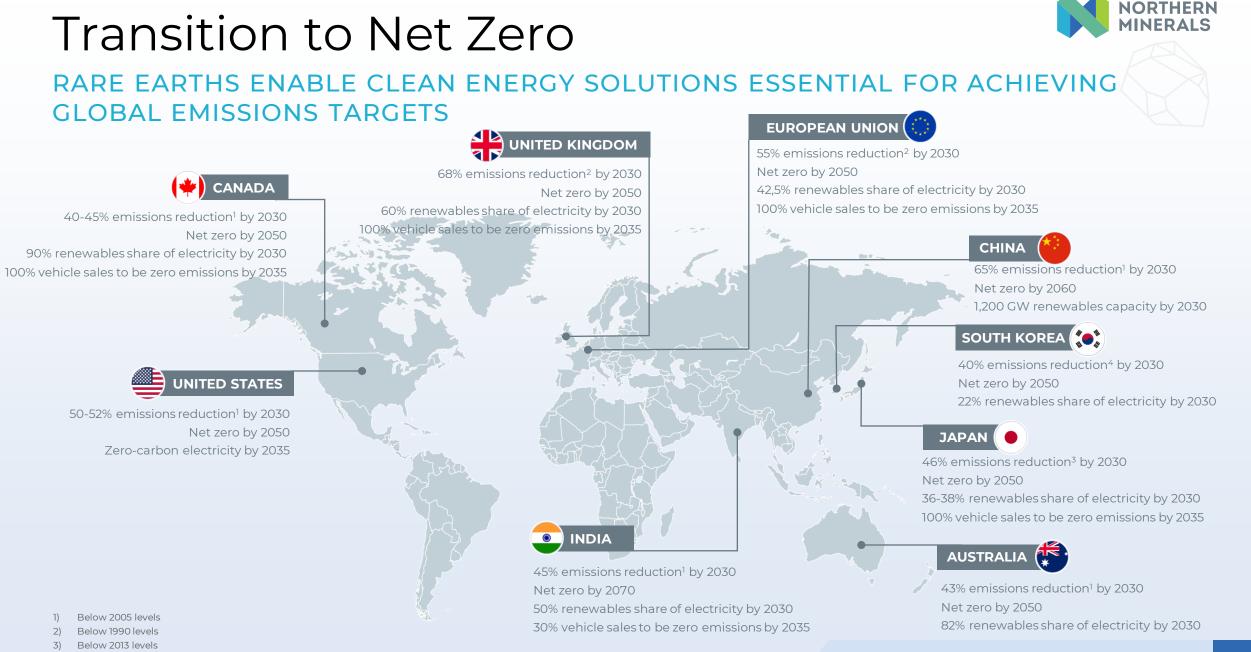
Northern Minerals confirms that it is not aware of any new information or data that materially affects the information included in the original releases and that all material assumptions and technical parameters underpinning the estimates in the original releases continue to apply and have not materially changed.

Northern Minerals confirms that the form and context in which the Competent Person findings are presented have not been materially modified from the original releases.

References to "TREO" and "HREO" have the following meanings:

TREO = Total Rare Earth Oxides – La2O3, CeO2, Pr6O11, Nd2O3, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3, Lu2O3, Y2O3

HREO = Heavy Rare Earth Oxides - Total of Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3, Ho2O3, Er2O3, Tm2O3, Yb2O3, Lu2O3, Y2O3



Below 2018 levels

# **Our Value Proposition**



## A HIGH-GRADE HEAVY RARE EARTHS DEPOSIT, EXPANSIVE EXPLORATION POTENTIAL AND AN EXPERIENCED TEAM DRIVING BROWNS RANGE TO OPERATION<sup>1</sup>



### **BROWNS RANGE HEAVY RARE EARTHS (HRE) PROJECT**

- Browns Range is the most advanced HRE project globally<sup>2</sup>
- Moving towards FID, the Project is targeting production of c. 25% TREO concentrate rich in dysprosium and terbium
- Recent drilling results at the Wolverine deposit confirm significant high-grade mineralisation that remains open at depth<sup>3</sup>

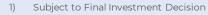


### STRATEGIC PARTNERSHIP WITH ILUKA RESOURCES

Long-term Supply Agreement to provide essential input to onshore processing of rare earth products



>5,600 km<sup>2</sup> total landholding across WA & NT, highly prospective for rare earths



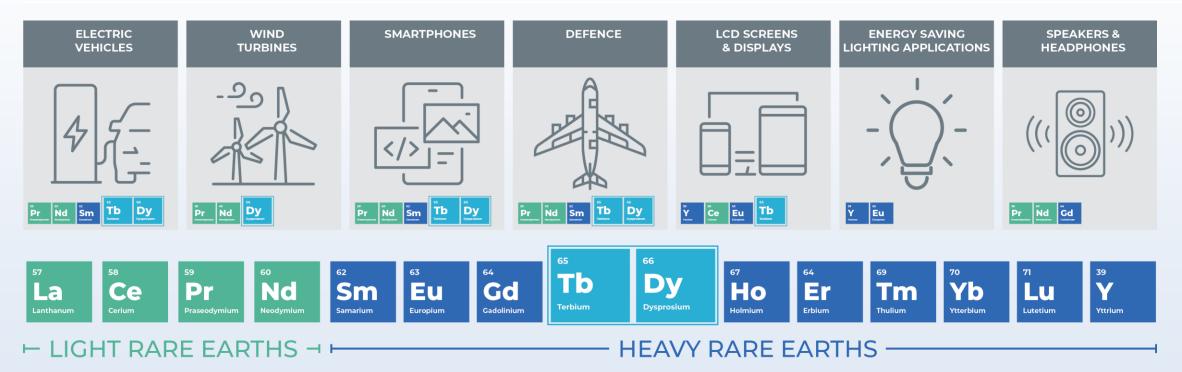
2) Northern Minerals analysis of company filings

3) ASX Announcement 30 May 2024: More exceptional heavy rare earth assays at Wolverine to inform Browns Range Mineral Resource update



# Supplying a Sustainable Future

DYSPROSIUM (Dy) AND TERBIUM (Tb) ARE KEY INPUTS TO HIGH TEMPERATURE PERFORMANCE MAGNETS



HIGH TEMPERATURE PERFORMANCE MAGNETS ARE CRITICAL COMPONENTS OF ELECTRIC VEHICLES, WIND TURBINES, DEFENCE APPLICATIONS AND BROADER CLEAN ENERGY TECHNOLOGIES

# Board and Management



# FOCUSSED ON EXECUTING FID AND DEVELOPMENT STRATEGY



#### ADAM HANDLEY Executive Chairman

- Past President of the Australia China Business Council, specialising in advising North Asian investors and their Australian counterparts across a range of sectors including resources and mining
- Convenor and moderator of the Western Australian Premier's China WA
   Strategic Resources Dialogue



#### SHANE HARTWIG MD & CEO

- 30+ years' experience in finance, capital markets and project development, most recently CFO and commercial lead for a proposed greenfield integrated infrastructure and mining project
- Proven track record working as a trusted strategic corporate and commercial advisor to small and mid-cap ASX listed companies

### **BIN CAI** Executive Director

- Managing Director of Conglin International Investment Group
- Record of successful investments in emerging Australian resources companies based on a long experience in resources investment.
- Prior 8 years' experience with the China Investment Bank



### LIANGBING YU Non-Executive Director

- 20+ years' experience in business operations and management, including investment analysis and strategy setting
- Based in Beijing China and has a dual bachelor degree in Investment Economics and Economic Law



#### NICK CURTIS Strategic Advisor

- 35+ years' experience in mining and finance, with 25+ years of RE experience.
- Previous Executive Chairman of Lynas Corporation (ASX:LYC) after taking control of the company in 2001, he refocused it as a rare earths company developing the Mt Weld
  deposit in WA, and a large downstream rare earth processing plant in Malaysia and assisted in growing Lynas into the market leading RE company ex-China.

#### ANGELA GLOVER Chief Operations Officer

- 20+ years' experience in the resources and infrastructure industries, with extensive experience in operational roles, ESG and Corporate Affairs; most recent experience is in a complex regulatory greenfield start-up
- Member of the Australian Institute of Metallurgy and Mining and a Graduate of the Australian Institute of Company Directors.

### **ROBIN JONES** Head of Projects

- 30+ years' experience in the mining industry and has held senior positions globally across various mining companies.
- COO of Northern Minerals for ~10 years and was the Project Director for the 2015 DFS, with over 10 years' experience in rare earths.



### DALE RICHARDS Head of Geology

- 25+ years' experience in the mining industry managing exploration and growth, operational geology and near mine resource operational readiness.
- Extensive experience in underground and open pit mining operations.

### HAYLEY PATTON Head of People and Culture

- 15+ years' experience in senior leadership and management roles within the mining and resource sector and other industries.
- Experienced in strategic and value driven HR practices.
- Member of the Australian HR Institute.



NORTHERN

SOUTH AUSTRALIA

# Browns Range HRE Project

UNDERPINNED BY THE WOLVERINE DEPOSIT, THE HIGHEST KNOWN GRADE Dy AND Tb DEPOSIT<sup>1</sup>

High Value Concentrate	<ul> <li>Mining and processing at site to produce c. 25% TREO concentrate rich in heavy rare earths</li> </ul>	Hall Cree
Exploration Upside	<ul> <li>Recent drilling results confirm deposit is open at depth<sup>2</sup></li> </ul>	Broome Port Hedland
Processing	<ul> <li>3-year pilot plant (in operations 2018-2021) provided critical data to inform operations</li> </ul>	Browns Range Project Northern Minerals (ASX:NTU) WESTERN AUSTRALIA
lluka Partnership	<ul> <li>Long-term supply and funding arrangement<sup>3</sup> with domestic partner Iluka Resources</li> </ul>	AUSTRALIA
Approvals	All key approvals in place	Eneabba Refinery Iluka Resources (ASX:ILU)
Development Timing	<ul> <li>Final DFS scheduled completion Q4 2024 and Final Investment Decision targeted Q1 2025</li> <li>First production targeted Q4 2027</li> </ul>	Perth

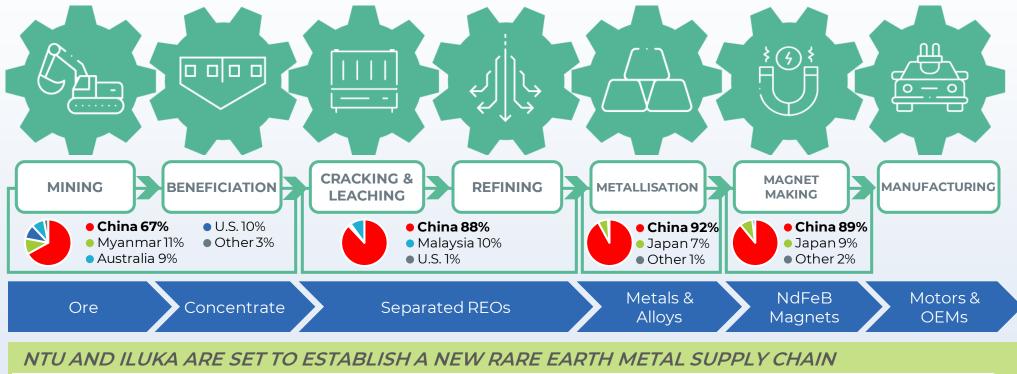
<sup>1)</sup> Northern Minerals analysis of company filings

- ) ASX Announcement 30 May 2024: More exceptional heavy rare earth assays at Wolverine to inform Browns Range Mineral Resource update
- Subject to certain conditions being satisfied including NTU making a positive FID decision in relation to Browns Range and Iluka completing due diligence in respect of NTU's DFS to their satisfaction



# Diversifying the Global Magnet Value Chain

CHINA DOMINATES THE VALUE CHAIN, OPPORTUNITY TO SUPPLY CRITICAL FEEDSTOCK FOR DOWNSTREAM PROCESSING OF Dy AND Tb IN AUSTRALIA







# Global Initiatives for Rare Earth Security

MINERALS SECURITY PARTNERSHIP BETWEEN 15 GOVERNMENTS TO SECURE CRITICAL MINERAL SUPPLY CHAINS IN SUPPORT OF NET ZERO TARGETS

### ( 🔶 CANADA

#### **Critical Minerals Strategy**

Increase supply of critical minerals with rare earths prioritised as 1 of 6 critical commodities for initial strategy<sup>1</sup>



#### **Inflation Reduction Act**

US \$400b committed to reducing climate change including securing supply chains for rare earths<sup>2</sup>

- https://www.canada.ca/content/dam/nrcan-rncan/documents/critical-mineralsdiscussion-paper-eng-2.pdf
- 2) https://www.mckinsey.com/industries/public-sector/our-insights/the-inflationreduction-act-heres-whats-in-it
- 3) https://single-market-economy.ec.europa.eu/sectors/raw-materials/areasspecific-interest/critical-raw-materials/critical-raw-materials-act\_en
- 4) https://mines.gov.in/admin/storage/app/uploads/649d4212cceb01688027666.pdf
- 5) https://english.motie.go.kr/eng/article/EATCLdfa319ada/1212/view
- 6) https://www.meti.go.jp/english/report/data/wp2023/pdf/2-1-2.pdf
- 7) https://www.meti.go.jp/press/2022/03/20230307001/20230307001.html
- 8) https://www.industry.gov.au/publications/critical-minerals-strategy-2023-2030

### 

#### **Critical Raw Minerals Act**

Increase and diversify supply and decrease dependency imports of critical raw materials, including rare earths<sup>3</sup>



## Strategy for securing reliable critical minerals supply

Secure supply of critical minerals, with rare earths deemed 1 of 10 strategic critical minerals prioritised for intensive management<sup>5</sup>

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#### Economic Security Promotion Act and National Security Strategy

Reduce import dependence and secure stable supply for critical minerals<sup>6</sup>. \$200M JOGMEC subsidiary investment in Lynas to secure HRE supply<sup>7</sup>

#### 

Critical Minerals Strategy

30 minerals, including rare earths, identified as critical in pursuit of self-reliance and security of supply



#### **C**ritical Minerals Strategy

A framework to grow Australia's critical minerals sector, with Iluka receiving a \$1.25Bn loan to build Eneabba<sup>8</sup>

# DFS<sup>1</sup> Update

# **PRODUCTION OF Dy/Tb-RICH** CONCENTRATE INCORPORATING LESSONS LEARNT FROM PILOT PLANT



Conventional open pit mining followed by underground mining using sublevel caving



Established flowsheet informed by comprehensive metallurgical testwork and three-year pilot plant operation



Xenotime ore is significantly concentrated to produce a concentrate of ~25% TREO



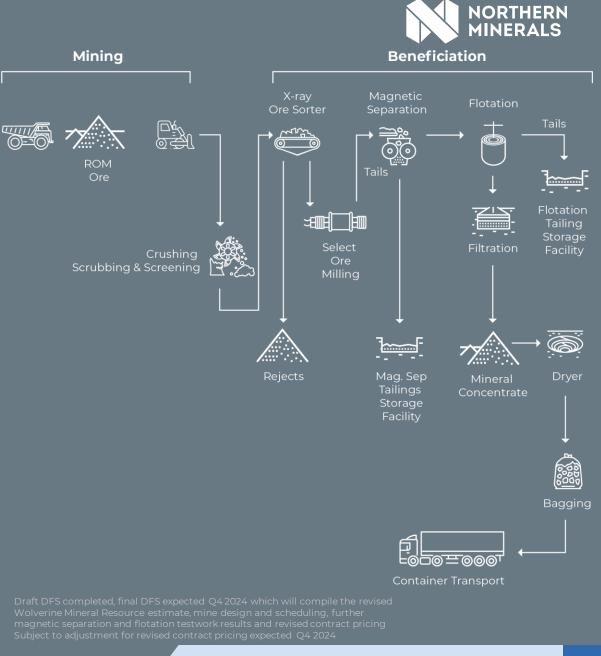
Pilot plant operations established key base operational requirements e.g. camp, roads, airstrip and power, that will be expanded



REO concentrate will be transported to Iluka's Eneabba Refinery on tautliner trucks



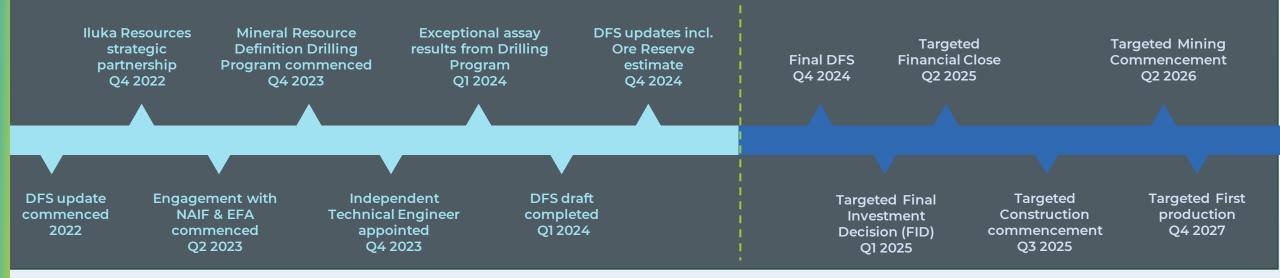
Capital cost estimated at ~\$548M (subject to ongoing value optimisation) plus ~\$69M contingency<sup>2</sup>



# Pathway to Production



### ACHIEVING KEY MILESTONES AND MAINTAINING MOMENTUM TOWARDS FID<sup>1</sup>



### KEY APPROVALS IN PLACE AND PRIOR WORK ENABLING ACCELERATED START UP:

- Ministerial Statement approved<sup>2</sup>
- Native Title and Heritage Agreements in place with the Jaru Aboriginal Corporation and Tjurabalan Native Title Land Aboriginal Corporation

- Project critical tenure granted
- Existing NPI (camp, airstrip, tailings dam)<sup>3</sup>
- High retention of a skilled workforce with experience in remote operations

<sup>1)</sup> Milestone targets are in Calendar Year, indicative and subject to change and funding

<sup>2)</sup> Subject to minor variation to Ministerial Statement 986 being sought under Section 45C of the EP Act, approval expected August 2024

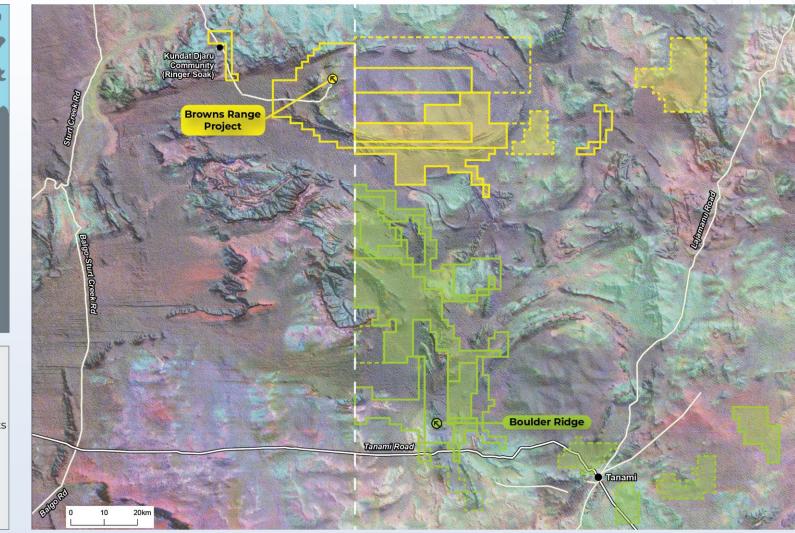
<sup>3)</sup> Expansion will be required for full scale operations



# Significant Tenure Holdings









# ESG Goals & Objectives

ESTABLISHED COMMUNITY ENGAGEMENT, ONGOING ENVIRONMENTAL MONITORING AND MANAGEMENT, PLANNING FOR SUSTAINABLE DEVELOPMENT AND REPORTING



Continuous improvement of sustainability framework to ensure compliance with evolving regulations

Ongoing environmental baseline, monitoring and data collection on-site

Extensive environmental planning and studies completed All site activities undertaken with zero material regulatory noncompliances

Pursuing a hybrid renewable power system for operations





Kundat Djaru community consultation, including education sessions to the primary school and community events Traditional Owner engagement with controlled burns, heritage monitoring and environmental surveys around site

Training to Work program to provide onsite training for local Aboriginal people Regionally significant employment and training opportunities and economic activity in the Kimberley region post FID Business community engagement as members of the East Kimberley Chamber of Commerce & Industry (CCI) and Broome CCI

# Investment Highlights



UNIQUELY PLACED TO BECOME A SIGNIFICANT SUPPLIER OF HEAVY RARE EARTHS ALONGSIDE AN EXTENSIVE EXPLORATION PORTFOLIO





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